

running lengthwise, fastened to the floor-beams by treenails. The dimensions of the main timbers are given as under:—

For the bottom chords—4 pieces, 5½ inches by 12 inches each.

For the top chords—3 pieces, 7½ inches by 9 inches each.

For the main-braces—2 abreast, 7 inches by 8½ inches each.

For the counter-braces, 7 inches by 7 inches each.

These braces are bolted at the point of intersection. The chords were to be coupled together, perpendicularly, with screw-bolts, which were to be of these dimensions:—

On the piers and abutments .. 1½ inch.

In the first five spaces, counting from the piers and abutments .. 1½ do.

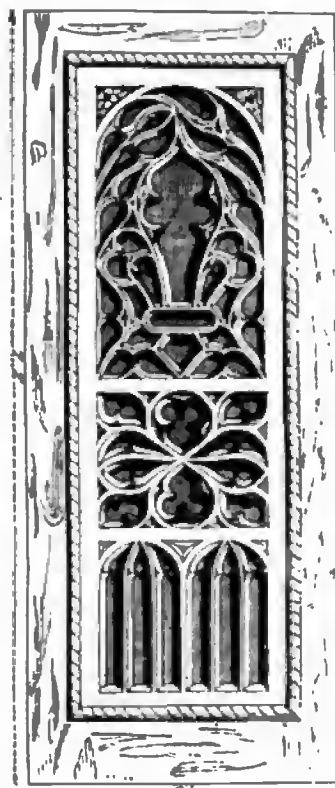
In the remaining three spaces of each span .. 1½ do.

All these were to take their bearings on oak gips or transoms, the size of which was to be 5 by 7 inches. The posts and braces on the piers and abutments were specified 6 by 8 inches, and the floor-beams, 5 by 12 inches. The whole of these timbers were to be of the best white pine. The floor-plank, 3 inches thick, was to be of good hemlock. This kind of timber is inferior to pine; it splinters, and does not last so long. The trusses were further specified to be coupled from side to side with screw bolts of 1½ inch diameter, and braced laterally with timbers of 5 by 5 inches and 5 by 6 inches, and tied, at the top, with oak timbers, 5 by 7 inches, and there braced laterally with timbers 5 by 5 inches and 5 by 6 inches. The 5 by 6 timbers were to be of full length, but the others were to be cut off at the intersection, and attached by dowels. The several pieces of the chords were to be coupled together with ½ inch bolts, 2 feet 2 inches long, as shown on the plan, giving the "upper side view of top chords, &c.," fig. 7. Vertical keys were also to be inserted in the spaces between the timbers, those keys to be 1 foot square and 2½ inches thick, as shown on the plan, giving the "top view of bottom chord, &c.," fig. 9; also an oak coupling clamp, 6½ feet long, to be inserted at the ends where the two timbers meet (the notches to be 1½ inch deep), to prevent the chords from gliding. Suitable plank was also specified for protecting the trusses from wheels, and directions were given for the returns of masonry at the abutments.

The long spans of the bridge have a camber of 8½ inches. No method has been taken to preserve the timber, but it is to be roofed over shortly, which it is expected will have the effect of preserving it. We believe it is intended to try the asphalted felt. The bridge will also be boarded up on the outer sides, to within 2 or 3 feet of the top chord, and the roof made to project considerably.

It will thus be seen that the bridge is a piece of construction in timber, which might call to mind Mr. Stephenson's project for the Britannia Bridge, at least in its appearance, when passing over it. The section, fig. 3, and the plan, fig. 4, show that it is braced over head, along the whole length of the bridge.—It may be necessary to mention that the pieces which receive the ends of the girders, are merely blocks extending across each chord, and not from one chord to another. In fig. 5 the timber at the top figured 5 by 7 is the end of a continuous timber; the corresponding piece at the bottom is merely a block through which the bolt passes.* To our inquiry as to the composition to be used for the flooring, we have been informed that gravel and tar are to be tried. In most countries timber bridges are paved on gravel, or covered only with broken stones or gravel, in all which cases means of conveying off the water should be carefully provided. Sufficient moisture will, however, always pass through the covering to rot the planking, and in many bridges it has been thought better to lay a second layer of planks, which would in that case be transversely, to prevent the feet of the horses sliding. When the planking is left uncovered, longitudinal planking, as in the bridge at Chambly,

FONT CASE, TICEHURST, SUSSEX.



will, however, be found most economical, as those planks which are most worn at the horse-track and the course of the wheels, can be replaced, whilst the other portions which are not worn, can be made to last several years. We subjoin a list of the diagrams.

Fig. 1. Elevation of one of the trusses; span, 153 feet.

Fig. 2. Plan of bottom chords and bracing, with a portion of the planking of the roadway removed.

Fig. 3. Transverse section of the truss.

Fig. 4. Plan of top chords and bracing.

Scale of the above figures, one-sixteenth of an inch to the foot.

Fig. 5. Elevation of top and bottom chords.

Fig. 6. Underside view of top chord.

Fig. 7. Upperside view of top chord, shewing keys.

Fig. 8. Upperside view of top chord, shewing bracing.

Fig. 9. Top view of bottom chord, shewing bracing, keys, clamp, and blocks.

Scale of the last-mentioned figures, half an inch to the foot.

BRITISH LYING-IN HOSPITAL.—The governors of this institution have obtained a site contiguous to the hospital, in Endell-street, Long Acre, and are about to rebuild it. At a recent meeting, it was resolved that the plan of the building submitted by Messrs. Fuller and Gingell, architects, of Bath, should be adopted. The elevation is to be in the Elizabethan style, and the cost is estimated at 4,000*l*. The price asked for the land, which they have taken on lease for eighty years, at 40*l*. per annum, is 1,200*l*.

GRANARY FLOORS.—A correspondent of the *Bedford Times* remarks, that while wheat on brick floors may be infested with weevil, the substitution of fir or larch will effectually keep out insects. That it is the resinous odour emitted by the wood that does so seems evident, as turpentine has been found to produce the like effect, and resinous boughs of thurges (pine or larch) and Virginian cedar thrust into sheaves of blighted wheat, will cause the weevil to rush out and seek other refuge.

CARVED FONT CASE, TICEHURST, SUSSEX.

ABOVE, we give a representation of part of the Font Case, at Ticehurst, in Sussex, a very elegant and curious example of panel tracery. The great variety, and yet conformity, to be found in the tracery of the Gothic artists appears at first sight extraordinary, but ceases to be so when the principles on which it was constructed are understood. Geometry regulated it wholly, and made the operation of design an easy one.

SHORT TIME MOVEMENT.

MEETING OF OPERATIVE CARPENTERS AND JOINERS.

AN assembly of between 600 and 700 workmen, with a sprinkling of their employers, met on Tuesday last, at dinner, in Cremorne Gardens, to celebrate the success of their peaceful movement; or rather, with the still more commendable and grateful object of "recording, by a public vote of thanks, the sense of respect they have for those employers who came forward so readily to grant the four o'clock privilege." And certainly the sentiments of the speakers, and the enthusiasm with which those sentiments were responded to by the numerous and most respectable and orderly assembly, rang in our ears as something very different indeed from any thing we had ever heard of, or witnessed, in the exhibitions of the dogmatical advocates of the striking system of former days.

The business of the meeting was opened by the chairman, Mr. Bates, an operative carpenter, who congratulated his fellow workmen on their meeting in so strong a force for a purpose, to promote which, he believed, the trade had never before congregated together, namely, for the promotion of good feeling between employer and employed. Of course it was not to be expected that the immense number of persons connected with their trade in the metropolis could all be present, but he could

* Some trifling mistakes in the drawing forwarded from Canada have remained uncorrected. The lines of the bracing above the top-chord, and the blocks beneath the bottom-chord, should have appeared in the elevation. They are shown correctly in Fig. 8. There is a 1½-inch bolt clasp to each perpendicular timber, over the piers, and the braces have holes at their intersection, as described. In all other respects, the engraving is perfectly accurate.